

**CIVIL AVIATION AIRCRAFT ACCIDENT SUMMARY**  
**FOR THE YEAR 1991**

**1. INTRODUCTION**

The information contained in the publication is 42nd in the series. "Notifiable accidents", which took place in India during the year 1991 have been listed in a classified chronological order along with the summary and the cause of the accidents.

There have been 15 accidents during the year. One accident was investigated by a Court of Inquiry. Remaining accidents have been investigated by Inspectors of Accidents. Four accidents proved fatal resulting in death of eight crewmembers and 65 persons.

Incidents such as precautionary landings, forced landings, aborted take off, air misses, bird strikes etc. are not listed in this publication, although all these have been investigated.

The recommendations emanating from all such investigations of accidents and incidents are being implemented for enhancing the level of air safety. Statistical data of accidents and fatalities in respect of airlines operations including flying clubs and aerial operations is given in table 1.

NOTE                      All timings given in this publication are in IST (Indian Standard Time).

## **2. DEFINITIONS**

### **i) Accident:**

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:-

- a) A person is fatally or seriously injured as a result of being in the aircraft, or direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
- b) The aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected components, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in the aircraft skin; or
- c) The aircraft is missing or is completely inaccessible.

**NOTE:** An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

### **ii) Serious Injury:**

An injury which is sustained by a person in an accident and which:

- a) Require hospitalization for more 48 hours, commencing within seven days from the date the injury was received; or
- b) Results in a fracture of any bone(accept simple fractures of fingers, toes, or nose);or
- c) Involves lacerations which cause severe hemorrhage nerve, muscle or tendon damage; or
- d) Involves injury to any internal organ; or
- e) Involves second or third degree burns, or any burns affecting more than five per sent of the body surface; or
- f) Involves verified exposure to infectious substances or injurious radiation.

3. **INVESTIGATION OF ACCIDENTS**  
**(Aircraft Rules, 1937)**

Rule 71-Inspector's Investigation :

The Director General may order the investigation of any accident involving an aircraft whether such accident is required to be notified under Rule 68 or not and may be general or special order appoint any person(hereinafter referred to as an "Inspector of Accidents" for the purpose of carrying out such investigation.

Rule 74-Committee of Inquiry:

The Central Government may at its discretion appoint a committee of inquiry composed of two or more persons to hold an inquiry into an accident in which an aircraft is involved and such a committee shall have the same powers as an Inspector of Accidents.

Rule 75-Formal Investigation:

Where it appears to the Central Government that it is expedient to hold a formal investigation of an accident it may, whether or not an investigation or an inquiry has been made under Rule 71 or 74, by order direct a formal investigation to be held.

The Central Government shall appoint a competent person(referred as Court) to hold the investigation and may appoint one or more persons possessing legal, aeronautical engineering or other special knowledge to act as assessors to the Court.

The Court shall hold the investigation in open Court in such manner and such conditions as the Court may think fit for ascertaining the causes and circumstances of the accident and for enabling it to make the report hereinafter mentioned:

Provided that where the Court is of opinion that holding the investigation is likely-

- a) To be prejudicial to the interests of any country; or
- b) To jeopardize the personal safety of a person who is willing to make any statement or give evidence, the Court may hold in camera, the whole or part of the investigation.

#### 4. **TYPES OF FLYING**

i) **Airline Operation:**

The operation include all scheduled, non-scheduled and non-revenue flying by Indian Airlines, Air India, Vayudoot and Air Taxi Operators.

ii) **Non-Scheduled Operations:**

The operations include all scheduled, non-scheduled ferry, non-revenue, charter and test flying by other operators holding non-scheduled operator permit and engaged primarily in such operations.

iii) **Flying Training:**

Includes all flights for the purpose of initial issue of a flying licence, for conversion and practice flying or qualifying for renewal/endorsement of pilots license and test and ferry flying by organisation engaged primarily in flying training.

iv) **Aerial Work:**

Includes aerial survey, aerial, mustering on a commercial basis, aerial ambulance, aerial agricultural operations etc. and test and ferry flying by organisation engaged principally in aerial work operations.

v) **Private and Business:**

Includes private, pleasure and business flying and practice flying when the flying is not directly connected with the purposes of obtaining a higher licence qualifications.

## AIRLINE OPERATION - 1

1. AIRCRAFT:				
Type	:	Boeing 737		
Registration	:	VT-EFL		
2. DATE AND TIME	:	16 <sup>th</sup> Aug, 1991; 1246 Hrs		
3. LOCATION	:	Imphal		
4. TYPE OF OPERATION	:	Scheduled - Domestic		
5. PERSONS ON BOARD	:	Crew : 6; Passengers : 62+1		
6. INJURY INDEX	:	Fatal	Serious	Minor/None
		Crew	6 Nil	Nil
		Pax	62+1 Nil	Nil
		Others	Nil Nil	-
7. DAMAGE TO AIRCRAFT	:	Destroyed		
8. PILOT-IN-COMMAND	:	Licence	:	ALTP
		Age	:	37 years
		Total Hrs	:	3783

### SUMMARY

Indian Airlines Boeing 737 aircraft VT-EFL while operating flight IC-257 (Calcutta-Imphal) on 16.8.91 crashed about 20 nautical miles from the Imphal airport. The aircraft had earlier taken off from Calcutta at 0615 hrs UTC and it lost contact with Imphal airport at 0716 hrs UTC at approximately 5000 feet on ILS. The aircraft was under the command of Capt. Shekhar Halder with Capt. D.B. Roychoudhary as First Officer. There were a total of 68+1 persons on board the aircraft including crewmembers. All the 69 persons died in the accident. The aircraft was completely destroyed.

The probable cause of accident has been attributed as:

"The accident occurred by reason of a grave error on the part of the Pilot-in-Command in not adhering to the operational flight plan and ILS let down chart and not realizing that his early descent to 10,000 feet and turning right for outbound leg without reporting overhead VOR would result in loss of time reference and as such misplace him in the hilly terrain. The Pilot-in-Command's action may have been influenced by his extreme familiarity with the terrain".

Factor: Pilot - Non-adherence to laid down procedures, regulations and instructions.

## FLYING TRAINING - 1

1. AIRCRAFT:				
Type	:	Pushpak Mk-I		
Registration	:	VT-EIK		
2. DATE AND TIME	:	21 <sup>st</sup> Jan,1991; 1715 Hrs		
3. LOCATION	:	Pinjore		
4. TYPE OF OPERATION	:	Training		
5. PERSONS ON BOARD	:	Crew : 2; Passengers : Nil		
6. INJURY INDEX	:	Fatal	Serious	Minor/None
		Crew	Nil Nil	2
		Pax	Nil Nil	Nil
		Others	Nil Nil	-
7. DAMAGE TO AIRCRAFT	:	Substantial		
8. PILOT-IN-COMMAND	:	Licence	:	CPL
		Age	:	44 years
		Total Hrs	:	5288:10

### SUMMARY

Pushpak aircraft VT-EIK was engaged in instructional flight on 21.01.1991. Capt. G.S. Cheema, Chief Flying Instructor (CFI) was in command with Miss Simern Ghumman, as the trainee pilot. The aircraft took-off from Runway 34 of Pinjore airport at 16:55 hrs. After demonstrating practice force landing over the runway, Capt. Cheema continued with a roller take-off from Runway 34 and climbed to 200 feet to demonstrate emergency actions to be taken in case of engine failure after take-off. He pulled back the throttle at 200 feet altitude and brought the aircraft to gliding attitude and turned the aircraft left. During the approach with throttle back, the aircraft hit the electrical wires and its tail portion hit the dry riverbed. The aircraft was substantially damaged. Both the occupants on board escaped unhurt. There was no fire.

The probable cause of accident has been attributed as :

"Instructor Pilot executing exercise of simulated engine failure after take-off at a height lower than the recommended and glided down too low above ground level as a result of which the aircraft got entangled with the electrical wires which he could not observe due to glare of sun".

Factors: Pilot - Operational Decision.

## FLYING TRAINING - 2

1. AIRCRAFT :  
Type : Cessna 152-A  
Registration : VT-EIC
2. DATE AND TIME : 1<sup>st</sup> Jun 1991; 0915 hrs
3. LOCATION : Safdarjung Airport
4. TYPE OF OPERATION : Training Flight
5. PERSONS ON BOARD : Crew : 1; Passengers : 1
6. INJURY INDEX : Fatal Serious Minor/None  

Crew	Nil	Nil	1
Pax	Nil	Nil	1
Others	Nil	Nil	-
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : PPL  
Age : 21 years  
Total Hrs : 66:25

### SUMMARY

Cessna 152-A aircraft VT-EIC owned and operated by Delhi Flying Club was engaged in local flying at Safdarjung airport on 1.6.91. Capt. Rajesh Neb, a PPL holder, took-off for circuit and landing exercises from Runway 12. The first two sorties were uneventful. During the third sortie, he took-off with a joyride on board. The take-off was normal. After completing the circuit, the aircraft was cleared to land on Runway 12. Before touch down, the pilot initiated go around. While going around, the aircraft could not climb and it hit a tree while crossing over a nearby flyover and its undercarriage hit the lamppost. The aircraft sustained substantial damage. Both occupants on board escaped unhurt. There was no fire.

The probable cause of accident has been attributed as:

"The aircraft could not attain a safe height and hit a tree during climb due to late go around action, improper configuration of the aircraft and its weight being close to the maximum all-up-weight. Pilot's long break in flying was a contributory factor to the accident".

Factor: Pilot - Operational Decision

### FLYING TRAINING -3

1. AIRCRAFT:  
Type : Pushpak Mk-I  
Registration : VT-DSV
2. DATE AND TIME : 5th Sept 1991; 1740 Hrs
3. LOCATION : Patiala
4. TYPE OF OPERATION : Training Flight
5. PERSONS ON BOARD : Crew : 1; Passengers : 1
6. INJURY INDEX : Fatal Serious Minor/ None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | 1   | Nil | Nil |
| Pax    | 1   | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND : Licence : PPL  
Age : 24 years  
Total Hrs : 139:05

#### SUMMARY

On 5.9.1991, Pushpak aircraft VT-DSV of Patiala Aviation Club was engaged in local flying. The aircraft was under the command of pilot Capt. Harpreet Mohinder Singh, PPL No. 4329, along with a joyrider on board. The aircraft took-off from Runway 15 of Patiala airfield at about 17:35 Hrs IST for local circuits and landings. After take-off, the aircraft took a left hand turn. The pilot extended the base leg of the circuit and went over the defence area. The area contained tall Eucalyptus trees 70-80 feet high in the flight path. The aircraft then took a steep left hand turn and then right hand turn at a low height. In the process, the aircraft lost height and impacted ground in a nose down attitude. The aircraft sustained substantial damage. Both the occupants on board died due to impact. There was no fire.

The probable cause of accident has been attributed as:

Stalling of the aircraft at a low height as a result of steep turns to avoid hitting Eucalyptus trees in the extended base leg of the circuit from where recovery was not possible.

Handing over flight controls by the pilot to the joy rider on board the aircraft prior to the accident cannot be ruled out".

Factor: Pilot - Non adherence to laid down procedures, regulations and instructions.



## FLYING TRAINING - 4

1. AIRCRAFT :  
Type : Piper Super Cruiser  
Registration : VT-CNQ
2. DATE AND TIME : 24<sup>th</sup> Sept; 1991;
3. LOCATION : Lucknow
4. TYPE OF OPERATION : Training Flight
5. PERSONS ON BOARD : Crew : 1; Passengers : 1
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |   |
|--------|-----|-----|---|
| Crew   | Nil | Nil | 1 |
| Pax    | Nil | Nil | 1 |
| Others | Nil | Nil | - |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : PPL  
Age : 21years  
Total Hrs : 85.50

### SUMMARY

Piper Super Cruiser aircraft VT-CNQ belonging to Dte. of Aviation, Lucknow was engaged in a cross-country flight from Lucknow to Varanasi and back on 24.9.91 under the command of Capt. S.K. Singh. There was also one passenger on board. During the take-off roll the aircraft started swinging to the left. The pilot applied rudder input to control the swing. Failing to control the swing, he cut the power and abandoned the take-off. The aircraft swung to the left of the runway and sustained substantial damage. There was no injury to any person. There was no fire.

The probable cause of accident has been attributed as:

"The accident occurred due to lack of skill on the part of the pilot in checking the aircraft tendency to swing and in maintaining directional control of the aircraft during take-off run".

Factor: Pilot - Aircraft handling.

## FLYING TRAINING GLIDING - 1

1. AIRCRAFT :  
Type : Rohini RG-1 Glider  
Registration : VT-GAY
2. DATE AND TIME : 16<sup>th</sup> April 1991; 0921 Hrs
3. LOCATION : Jaipur
4. TYPE OF OPERATION : Gliding Operation
5. PERSONS ON BOARD : Crew : 2; Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | Nil | Nil | 2   |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : GPL  
Age : 49 years  
Total Hrs : 596:30

### SUMMARY

Rohini glider VT-GAY operated by Rajasthan Flying School, Gliding Wing, Jaipur was engaged in a training flight on 16th April, 1991. The gliding operation commenced at 07:43 hrs IST from Runway 33. After three launches since the wind was changing towards Runway 15, the launching was started from Runway 15. During the fourth launch from Runway 15 (which was the seventh launch of the day) the glider took-off with Capt. Surendra Singh, the Instructor and Miss Deepika Dubey, the trainee pilot on board. The take-off was executed by Miss Dubey. After the glider gained a height of about 100 feet, on experiencing that the glider is covering more distance than height, the Instructor took-over the controls from the trainee pilot and released the cable for landing back. In the process of landing, the glider impacted with kutch side strip of Runway 15 and toppled over damaging the nose section and breaking the fuselage from centre. There was no fire. Both the occupants received minor bruises on the face.

The probable cause of accident has been attributed as:

"Failure of the instructor pilot to control the glider after the bounce due to heavy touchdown was the cause of the accident.

High sink rate generated either due to use of air brakes and/or due to pushing the stick too forward during landing was the contributory factor of heavy touchdown".

Factor : Pilot - Aircraft handling.

## FLYING TRAINING GLIDING -2

1. AIRCRAFT :  
Type : Rohini RG-1 Glider  
Registration : VT-GCP
2. DATE AND TIME : 8<sup>th</sup> Aug 1991; 1430 Hrs
3. LOCATION : Ludhiana
4. TYPE OF OPERATION : Gliding Operation
5. PERSONS ON BOARD : Crew : 2; Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | Nil | Nil | 2   |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : GPL  
Age : 30 years  
Total Hrs : 743:39

### SUMMARY

Rohini glider VT-GCP operated by Ludhiana Aviation Club was engaged in a dual instructional training flight on 8.8.1991. During the 22nd launch of the day, when the glider gained a height of about 25-30 feet AGL, a sudden jerk was felt in the upward direction. The accelerator lever of winch became loose resulting in power loss to the glider. The instructor immediately pushed the stick forward to avoid stalling. However, the glider hit the ground on the main skid and slide for about 10 feet before it nosed over. The glider sustained substantial damage. Both the occupants on board escaped unhurt.

The probable cause of accident has been attributed as:

"Accident occurred due to winch power loss because of accelerator cable failure at a very low height of the glider during launch".

Delay in taking over of controls subsequent to power loss by instructor was the contributory factor".

Factor: Pilot - Operational Decision  
Others - Improper Maintenance.

### FLYING TRAINING GLIDING -3

1. AIRCRAFT :  
Type : Rohini RG-1 Glider  
Registration : VT-GCR
2. DATE AND TIME : 29<sup>th</sup> Nov 1991; 1602 Hrs
3. LOCATION : Ranchi
4. TYPE OF OPERATION : Gliding Operation
5. PERSONS ON BOARD : Crew : 1; Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | Nil | Nil | 1   |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : GPL  
Age : 44 years  
Total Hrs : 192

#### SUMMARY

Rohini glider VT-GCR operated by Bihar Flying Institute was engaged in a gliding operation on 29.11.91 under the command of Capt. R.K. Sahu. During the seventh launch, after completing the circuit, the glider made a low approach for Runway 31 and touched down before the actual touch down zone by 50 feet and ran over an uneven surface due to which it toppled and got substantially damaged. There was no injury to any person.

The probable cause of accident has been attributed as:

"The accident occurred due to error in judgment on the part of the pilot who inadvertently extended the circuit and came on to finals at a lower height causing the glider to undershoot while landing.

Factor: Pilot- Non adherence to laid down procedures, regulations and instructions.

## AGRICULTURAL OPERATION - 1

1. AIRCRAFT :  
Type : Basant HA-31 Mk-II  
Registration : VT-EEG
2. DATE AND TIME : 27<sup>th</sup> March 1991; 1455 Hrs
3. LOCATION : Central State Farm, Hissar
4. TYPE OF OPERATION : Crop Spraying
5. PERSONS ON BOARD : Crew : 1, Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | Nil | Nil | 1   |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : CPL  
Age : 37 years  
Total Hrs : 1179.15

### SUMMARY

Basant aircraft VT-EEG operated by Agro Aviation Division, Vayudoot was engaged in an aerial spray operation at Central State Farm, Hissar on 27.3.91. The pilot, Capt. R.B. Amarnath carried out four sorties uneventfully. During the fifth sortie, he was required to spray two patches of gram crop (height 1.5 feet) having a wheat field (height 4.5 feet) in between. First four swaths of the sortie were uneventful. During the fifth swath he came low for effective spray and in the process the aircraft undercarriage impacted the banks of a nullah flowing across the wheat field. Finding no abnormality with the aircraft he flew towards the landing strip, which was about 2-3 minutes of flight time. The aircraft landed on the strip and during rolling its port undercarriage collapsed and the aircraft sustained substantial damage. The pilot escaped unhurt. There was no fire.

The probable cause of accident has been attributed as:

"During spray operation the aircraft undercarriage impacted the banks of a nullah due error of judgment on the part of the pilot".

Factor: Pilot- Non adherence to laid down procedures, regulations and instructions.

## AGRICULTURAL OPERATION - 2

1. AIRCRAFT :  
Type : Chetak Helicopter  
Registration : VT-EIY
2. DATE AND TIME : 19<sup>th</sup> May 1991; 12:30 Hrs.
3. LOCATION : Near Calicut
4. TYPE OF OPERATION : Crop Spraying
5. PERSONS ON BOARD : Crew : 1; Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | 1   | Nil | Nil |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Destroyed
8. PILOT-IN-COMMAND :  
Licence : CPL(H)  
Age : 49 years  
Total Hrs : 7181:45

### SUMMARY

Chetak helicopter VT-EIY operated by Agro Aviation Division of Vayudoot was engaged in a crop spray operation at Kinalur Estate near Calicut on 19.5.1991 under the command of Capt. Chopra. While returning to the helipad after finishing the 20<sup>th</sup> sortie, the helicopter got entangled with double circuit high tension wires which run across the Kinalur Estate. Thereafter it fell on to the rubber plantation field adjacent to the high tension wires. The helicopter fuselage impacted the ground in an inverted position. The helicopter was completely destroyed due to post impact fire. Capt. Chopra, who was the sole occupant on board, received fatal injuries. The accident occurred in the day light conditions.

The probable cause of accident has been attributed as:

"The accident was caused due to wire hit and consequent uncontrollability of the helicopter as a result of pilot's misjudgment of clearance with H.T. wires".

Factor: Pilot - Operational Decision.

### AGRICULTURAL OPERATION - 3

1. AIRCRAFT :  
Type : Bell 47 G-5  
Registration : VT-DWP
2. DATE AND TIME : 16<sup>th</sup> Jun 1991; 0826 Hrs.
3. LOCATION : Near Calicut
4. TYPE OF OPERATION : Crop Spraying
5. PERSONS ON BOARD : Crew : 1; Passengers : Nil
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |     |
|--------|-----|-----|-----|
| Crew   | Nil | 1   | Nil |
| Pax    | Nil | Nil | Nil |
| Others | Nil | Nil | -   |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND : Licence : CPL(H)  
Total Hrs : 3997

#### SUMMARY

Bell helicopter VT-DWP belonging to M/s Agro Aviation Division, Vayudoot was engaged in aerial spray operation over rubber plantation at Kinalur Estate on 16.6.91 under the command of Capt. R.S. Mann. After completing the eighth sortie, when the helicopter was returning, the pilot observed sudden change in engine sound. Thereafter the helicopter kept sinking and crash-landed in rubber plantation. The pilot received serious injuries. The helicopter sustained substantial damage. There was no fire.

The probable cause of accident has been attributed as :

"The accident occurred when the helicopter force landed over the rubber trees after the engine failure.

Improper repairs of the crank shaft during the engine overhaul was the contributory factor to the engine failure".

Factor : Aircraft- Improper Maintenance.

## PRIVATE - 1

1. AIRCRAFT :  
Type : Chetak Helicopter  
Registration : VT-EGZ
2. DATE AND TIME : 21<sup>st</sup> May 1991; 1410 Hrs
3. LOCATION : Saroda, 210 Kms from Bhubneshwar
4. TYPE OF OPERATION : Private
5. PERSONS ON BOARD : Crew : 1, Passengers : 3
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |   |
|--------|-----|-----|---|
| Crew   | Nil | Nil | 1 |
| Pax    | Nil | Nil | 3 |
| Others | 1   | Nil | - |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : CPL(H)  
Age : 46 years  
Total Hrs : 3072:45

### SUMMARY

Chetak helicopter VT-EGZ operated by Indian Metal & Ferro Alloys Ltd was engaged in an election work on 21.5.91. The helicopter was flown from Barhagarh to Saroda under the command of Capt. D.S. Mokha. There were three passengers on board including the Hon'ble Chief Minister of Orissa. After landing on the helipad at Saroda, the pilot switched off the engine. While the tail rotor was still wind milling, Dy. Supdt. of Police on duty at the helipad came in contact with the tail rotor of the helicopter. As a result, he was seriously injured and later scummed to his injuries on 26.5.91. Due to impact, two tail rotor blades were broken and the third blade dented. Apart from this there was no other damage to the helicopter.

The probable cause of accident has been attributed as:

"Entering of the Dy. Supdt. of Police in the zone of danger while main and tail rotors were wind milling. He was hit by tail rotor blades and suffered serious injuries on his head".

Factor: Other personnel.



## PRIVATE - 2

1. AIRCRAFT :  
Type : Piper Navajo  
Registration : VT-ERX
2. DATE AND TIME : 28<sup>th</sup> Oct 1991; 1855 Hrs
3. LOCATION : Bombay
4. TYPE OF OPERATION : Private
5. PERSONS ON BOARD : Crew : 1; Passengers : 5
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |   |
|--------|-----|-----|---|
| Crew   | Nil | Nil | 1 |
| Pax    | Nil | Nil | 5 |
| Others | Nil | Nil | - |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : ALTP  
Age : 51 years  
Total Hrs : 6095

### SUMMARY

Piper Navajo aircraft VT-ERX belonging to M/s Continental Air Pvt. Ltd. was engaged in a charter flight on Bombay-Pune-Bombay sector on 28.10.1991. The aircraft was under the command of Capt. G.C. Mehra. There were five passengers on board the aircraft. The flight from Pune to Bombay was uneventful. The pilot of the aircraft approached Bombay for landing on Runway 27. After obtaining landing clearance, the aircraft contacted the runway surface on its belly and also with rotating propellers of both the engines. As a result the aircraft sustained substantial damage. All the occupants on board escaped unhurt. There was no fire.

The probable cause of accident has been attributed as :

"The pilot during landing failed to ensure that the landing gear lever had been moved by him to full down position and he also failed to carry out the check list item for 3 green lights indication for the landing gears; thereby landed with gear up condition.

The non-availability of the landing gear warning horn had devoid the pilot of the aural warning that could have alerted him to avoid the gear up landing".

Factor: Pilot- Non adherence to laid down procedures, regulations and instructions.

### PRIVATE - 3

1. AIRCRAFT :  
Type : Dornier DO-228  
Registration : VT-EPV
2. DATE AND TIME : 13<sup>th</sup> Sept, 1991; 0730 Hrs
3. LOCATION : Madras
4. TYPE OF OPERATION : Private
5. PERSONS ON BOARD : Crew : 3; Passengers : 14
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |    |
|--------|-----|-----|----|
| Crew   | Nil | Nil | 3  |
| Pax    | Nil | Nil | 14 |
| Others | Nil | Nil | -  |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : ALTP  
Age : 33 years  
Total Hrs : 4050

### SUMMARY

Dornier DO-228 aircraft VT-EPV belonging to M/s UB Air was operating flight UB-201 from Bangalore to Madras on 13.9.1991 under the command of Capt. Haroon Rashid with Capt. G. Soorma as Co-pilot. There were 14 passengers and one Air-hostess also on board. The aircraft took-off from Bangalore at 0645 hrs IST. The flight from Bangalore to Madras was uneventful. The aircraft was cleared to land by Madras Control Tower at 0728 hrs IST. The aircraft touched down on the belly at a distance of 2140 feet from the beginning of Runway 07. The aircraft slid on its belly for approximately 1500 feet before finally coming to rest on the runway slightly to the right side of the centre line. The port wing tip and the port engine propeller blades had touched the runway just before it came to stop. The rear passenger door was opened normally by the airhostess and the passengers were evacuated from the rear door. There was slight smoke near the bottom centre of the fuselage but there was no fire. There was no injury to any person on board.

The probable cause of accident has been attributed as:

"The accident occurred due to aircraft landing without extension of landing gears on account of negligent flying by the commander disregarding the laid down operating procedures.

Failure of the co-pilot to bring to notice of the commander the deviations from the procedures and to verify and cross check that gears were down was the contributory factor to the accident".

- Factor: 1. Pilot - Non adherence to laid down procedures, regulations and instructions.
2. Co-pilot - Non adherence to laid down procedures, regulations and instructions.

## PRIVATE - 4

1. AIRCRAFT :  
Type : Bell 47 G-5 Helicopter  
Registration : VT-EAS
2. DATE AND TIME : 31<sup>st</sup> Oct 1991; 1348 Hrs
3. LOCATION : Basugaon, 120 Km from Guwahati
4. TYPE OF OPERATION : Private
5. PERSONS ON BOARD : Crew : 1 Passengers : 1
6. INJURY INDEX : Fatal Serious Minor/None
- |        |     |     |   |
|--------|-----|-----|---|
| Crew   | Nil | Nil | 1 |
| Pax    | Nil | Nil | 1 |
| Others | Nil | Nil | - |
7. DAMAGE TO AIRCRAFT : Substantial
8. PILOT-IN-COMMAND :  
Licence : CPL(H)  
Age : 47 years  
Total Hrs : 11500

## SUMMARY

Bell 47 G-5 helicopter VT-EAS belonging to M/s Bharat Air was engaged in a pipe line inspection operation on 31.10.1991. The helicopter took off from Bongaigaon with two persons on board. When it was 10 kms from Bongaigaon, the commander felt sudden whining sound. Thereafter, the helicopter started descending rapidly and controls became sluggish and ineffective. The pilot executed forced landing in a ploughed field. The helicopter sustained substantial damage. Both the occupants escaped unhurt. There was no fire.

The probable cause of accident has been attributed as :

"The accident was caused due to shearing of sun gear of the transmission unit as a result of development of fatigue failure of the pinion gear teeth, causing further damage, jamming and failure of the transmission unit".

Factor: Aircraft - Improper Maintenance.

**Table 1****CLASSIFICATION OF ACCIDENTS (POWERED AIRCRAFT) BY NATURE OF FLIGHT**

NATURE OF FLIGHT	NO. OF ACCIDENTS	NO. OF FATAL ACCIDENTS	CREW		PASSENGERS		OTHERS		AIRCRAFT DAMAGE		
			Killed	Seriously	Killed	Seriously	Killed	Seriously	Destroyed	Substantial	Minor/Nil
Airline Operation	1	1	6	-	63	-	-	-	1	-	-
Non-Scheduled Operation	-	-	-	-	-	-	-	-	-	-	-
Flying Training	4	1	1	1	-	1	-	-	-	-	4
Aerial Work	3	1	1	1	-	-	-	-	1	2	-
Private & Business	4	1	-	-	-	-	1	-	-	4	-